

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2004/027231

A. CLASSIFICATION  
C12N15/11 C12P19/34 C07H21/02 C07H21/04 A01N43/04  
A61K31/713

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of the relevant passages	Relevant to claim No
Y	WO 03/006477 A (UNIVERSITY OF MASSACHUSETTS; ZAMORE, PHILLIP, D; HUTVAGNER, GYORGY; MC) 23 January 2003 (2003-01-23) page 33, paragraph 3 -----	1-32, 34
Y	WO 03/072590 A (SIRNA THERAPEUTICS, INC; MCSWIGGEN, JAMES; BEIGELMAN, LEONID; USMAN, N) 4 September 2003 (2003-09-04) page 112, lines 24-29 -----	1-32, 34
Y	WO 02/44321 A (MAX-PLANCK-GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V; TUSCHL,) 6 June 2002 (2002-06-06) page 8, line 11 - page 10, line 32 ----- -/-	1-32, 34

☒ Further documents are listed in the continuation of box C

☒ Patent family members are listed in annex

### \* Special categories of cited documents

"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier document but published on or after the international filing date  
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
"&" document member of the same patent family

Date of the actual completion of the international search

17 August 2005

Date of mailing of the international search report

16 Q 2006

Name and mailing address of the ISA

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## C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category "	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 03/070918 A (RIBOZYME PHARMACEUTICALS, INCORPORATED; MCSWIGGEN, JAMES; BEIGELMAN, L) 28 August 2003 (2003-08-28) page 6, line 10 - page 14, line 17 -----	1-32,34
Y	ELBASHIR S M ET AL: "Functional anatomy of siRNAs for mediating efficient RNAi in Drosophila melanogaster embryo lysate" EMBO JOURNAL, OXFORD UNIVERSITY PRESS, SURREY, GB, vol . 20, no. 23, 3 December 2001 (2001-12-03), pages 6877-6888, XP002225998 ISSN: 0261-4189 page 6881, right-hand column, paragraph 2 - page 6882, left-hand column, paragraph 1 page 6884, left-hand column, paragraphs 3,4 page 6885, left-hand column, paragraph 4 - right-hand column, paragraph 1 -----	1-32,34
P, X	wo 2004/056866 A (GENEOS OY; LAITINEN, TARJA; KERE, JUHA; LAITINEN, LAURI, A; POLVI, ANN) 8 July 2004 (2004-07-08) page 24, paragraph 3 - page 25, paragraph 1 page 40, paragraph 3 page 41, paragraph 2 claims 28, 112 -----	1-32,34

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national application No  
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## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons

- 1 ☐ Claims Nos  
because they relate to subject matter not required to be searched by this Authority, namely
- 2 ☐ Claims Nos  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically
- 3 ☐ Claims Nos  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6 4(a)

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows

see additional sheet

- 1 ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims
- 2 ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee
- 3 ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos
- 4 ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims, it is covered by claims Nos

1-32, 34

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest
- ☐ No protest accompanied the payment of additional search fees

FURTHER INFORMATION CONTINUED FROM

POT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-32, 34

A double stranded short interfering nucleic acid (siNA) directing cleavage of a G protein coupled receptor for asthma susceptibility (GPRA) as described in claim 1.

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2. claims: 33, 35 (part)

A double stranded short interfering nucleic acid (siNA) directing cleavage of a G protein coupled receptor for asthma susceptibility (GPRA) as described in claim 1 wherein said siNA comprises any of SEQ ID NOS: 1-34, 88-121.

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3. claims: 33, 35 (part)

A double stranded short interfering nucleic acid (siNA) directing cleavage of a G protein coupled receptor for asthma susceptibility (GPRA) as described in claim 1 wherein said siNA comprises any of SEQ ID NOS: 35-68, 122-155.

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4. claims: 33, 35 (part)

A double stranded short interfering nucleic acid (siNA) directing cleavage of a G protein coupled receptor for asthma susceptibility (GPRA) as described in claim 1 wherein said siNA comprises any of SEQ ID NOS: 69-87, 156-174, 175-202.

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5. claims: 33, 35 (part)

A double stranded short interfering nucleic acid (siNA) directing cleavage of a G protein coupled receptor for asthma susceptibility (GPRA) as described in claim 1 wherein said siNA comprises any of SEQ ID NOS: 581-588, 597-692.

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6. claims: 33, 35 (part)

A double stranded short interfering nucleic acid (siNA) directing cleavage of an asthma associated alternatively spliced gene 1 (AAAI) wherein said siNA comprises any of SEQ ID NOS: 203-221, 222-240, 241-258, 281-298.

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7. claims: 33, 35 (part)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

A double stranded short interfering nucleic acid (siNA) directing cleavage of an asthma associated alternatively spliced gene 1 (AAAI) wherein said siNA comprises any of SEQ ID NOs: 259-280, 299-320, 321-335, 359-373.

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8. claims: 33, 35 (part)

A double stranded short interfering nucleic acid (siNA) directing cleavage of an asthma associated alternatively spliced gene 1 (AAAI) wherein said siNA comprises any of SEQ ID NOs: 336-358, 374-396, 397-411, 426-440.

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9. claims: 33, 35 (part )

A double stranded short interfering nucleic acid (siNA) directing cleavage of an asthma associated alternatively spliced gene 1 (AAAI) wherein said siNA comprises any of SEQ ID NOs: 412-425, 441-454, 455-477, 497-519.

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10. claims: 33, 35 (part)

A double stranded short interfering nucleic acid (siNA) directing cleavage of an asthma associated alternatively spliced gene 1 (AAAI) wherein said siNA comprises any of SEQ ID NOs: 478-496, 520-538, 539-546, 547-554, 555-559, 560-564, 565-572, 573-580.

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11. claims: 33, 35 (part)

A double stranded short interfering nucleic acid (siNA) directing cleavage of an asthma associated alternatively spliced gene 1 (AAAI) wherein said siNA comprises any of SEQ ID NOs: 589-596, 693-806.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No  
PCT/US2004/027231

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 03006477	A	23-01-2003	BR 0211111 A CA 2453183 A1 EP 1412371 A1 JP 2005503140 T	22-06-2004 23-01-2003 28-04-2004 03-02-2005
WO 03072590	A	04-09-2003	NONE	
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WO 03070918	A	28-08-2003	NONE	
WO 2004056866	A	08-07-2004	AU 2003292273 A1 EP 1572739 A1	14-07-2004 14-09-2005